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10/661,715

09/12/2003

Michael Marcovici

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WILLIAMS, MORGAN & AMERSON  
10333 RICHMOND, SUITE 1100  
HOUSTON, TX 77042

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EXAMINER

AJAYI, JOEL

ART UNIT

PAPER NUMBER

2617

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
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3 MONTHS

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/661,715

Applicant(s)

MARCOVICI ET AL.

Examiner

Joel Ajayi

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Information Disclosure Statement*

The information disclosure statement submitted on 1/28/05 has been considered by the Examiner and made of record in the application file.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**Claims 1, 2, 4, 7, 8, 10, 11, 13, 20, 21** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Zhang (U.S. Patent Application Number: 2005/0154895)** in view of **Paila (U.S. Patent Application Number: 2003/0096614)**.

Consider **claim 1**; Zhang clearly discloses a method, comprising: determining a private key for a first network (WLAN) based on at least one security value associated with a second network (3G) (abstract; paragraph 24, lines 1-22); between a mobile terminal and the first network (WLAN) using the private key (abstract; paragraph 24, lines 1-22).

Except:

Establishing a plurality of sessions.

In the same field of endeavor Paila clearly discloses establishing a plurality of sessions (paragraph 2, lines 1-9; paragraph 3, 1-11; paragraph 32, lines 1-33).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Paila into the method of Zhang in order to transmit service data to mobile terminals in a multi-bearer network.

Consider **claim 11**; Zhang clearly discloses a method, comprising: receiving at least one security value associated with a cellular network (3G) (abstract; paragraph 24, lines 1-22); determining a private key for a wireless local area network based on the security value associated with the cellular network (abstract; paragraph 24, lines 1-22); between a mobile terminal and the wireless local area network using a private key (abstract; paragraph 24, lines 1-22).

Except:

Allowing establishment of a plurality of sessions.

Art Unit: 2617

In the same field of endeavor Paila clearly discloses allowing establishment of a plurality of sessions (paragraph 2, lines 1-9; paragraph 3, 1-11; paragraph 32, lines 1-33).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Paila into the method of Zhang in order to transmit service data to mobile terminals in a multi-bearer network.

Consider **claim 20**; Zhang clearly discloses a method, comprising: receiving, at a server that is associated with a wireless local area network (WLAN server), at least one security value associated with a cellular network (abstract; paragraph 24, lines 1-22); determining, using the server (WLAN server), a private key based on the at least one security value (abstract; paragraph 24, lines 1-22); determining, at a mobile terminal, a private key based on the at least one security value associated with the cellular network (abstract; paragraph 24, lines 1-22); between the mobile terminal and the wireless local area network using the private key determined by the mobile terminal (paragraph 24, lines 1-22).

Except:

Allowing establishment of a plurality of sessions.

In the same field of endeavor Paila clearly discloses allowing establishment of a plurality of sessions (paragraph 2, lines 1-9; paragraph 3, 1-11; paragraph 32, lines 1-33).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Paila into the method of Zhang in order to transmit service data to mobile terminals in a multi-bearer network.

Consider **claims 2 and 21**; the combination above clearly discloses that the second network is a cellular network and the first network is a wireless local area network, and wherein

Art Unit: 2617

determining the private key comprises determining the private key based on a shared secret data key associated with the cellular network (Zhang, paragraph 24, lines 1-22).

Consider **claims 4 and 13**; the combination above clearly discloses that the private key further comprises populating the private key with a cryptographic transform of the shared secret data key (Zhang, paragraph 24, lines 1-22).

Consider **claim 7**; the combination above clearly discloses determining at least one session key based on the determined private key (Zhang, paragraph 24, lines 1-22).

Consider **claim 8**; the combination above clearly discloses establishing the plurality of sessions comprises authenticating the mobile terminal to the first network for each of the plurality of sessions (Paila, paragraph 2, lines 1-9; paragraph 3, 1-11; paragraph 32, lines 1-33).

Consider **claim 10**; the combination above clearly discloses establishing the plurality of sessions comprises determining a session key for each of the plurality of sessions based on the private key (Paila, paragraph 2, lines 1-9; paragraph 3, 1-11; paragraph 32, lines 1-33).

**Claims 3, 5, 9, 14, 16, 17, 19, and 22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang (U.S. Patent Application Number: 2005/0154895) in view of Paila (U.S. Patent Application Number: 2003/0096614), and further in view of Bridgelall (U.S. Patent Application Number: 2002/0085516).

Consider **claims 3, 19, and 22**; Zhang and Paila clearly discloses the claimed invention except determining the private key based on the shared secret data key comprises applying a root key, an electronic serial number associated with the mobile terminal, and a network-supplied

random value to a Cellular Authentication and Voice Encryption (CAVE) algorithm to generate the private key.

In the same field of endeavor Bridgelall clearly discloses determining the private key based on the shared secret data key comprises applying a root key, an electronic serial number associated with the mobile terminal, and a network-supplied random value to a Cellular Authentication and Voice Encryption (CAVE) algorithm to generate the private key (paragraph 41, lines 17-34).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Bridelall into the method of Zhang and Paila in order to provide a method of automatic and seamless vertical roaming between two networks maintaining an active voice or streaming data connection.

Consider claims 5, 9, and 17; the combination above clearly discloses that the second network is a cellular network having an associated authentication center and the first network is a wireless local area network, and wherein determining the private key comprises determining the private key based on one or more random challenges generated by the authentication center associated with the cellular network (abstract, lines 1-4; paragraph 41, lines 12-34; paragraph 46, lines 1-19).

Consider claims 14 and 16; the combination above clearly discloses that receiving the shared secret data key comprises receiving the shared secret data key over a Signaling System 7 (SS7) protocol (Bridgelall, paragraph 84, lines 1-9).

Art Unit: 2617

Claims 6, 12, 15, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang (U.S. Patent Application Number: 2005/0154895) in view of Paila (U.S. Patent Application Number: 2003/0096614), further in view of Bridgelall (U.S. Patent Application Number: 2002/0085516), and further in view of Mhyre et al. (U.S. Patent Application Number: 2004/0203800).

Consider claims 6, 12, 15, and 24; the combination above clearly discloses that determining the private key comprises determining one or more responses associated with the one or more challenges based on the shared secret data key associated with the CDMA network and combining the determined one or more responses to form the private key (abstract, lines 1-4; paragraph 46, lines 1-19).

Except:

The cellular network is a code division multiple access (CDMA) network.

In the same field of endeavor Mhyre clearly discloses that the cellular network is a code division multiple access (CDMA) network (paragraph 47, line 1 – paragraph 48, line 5).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Mhyre into the method of Zhang, Paila and Bridelall in order to provide an apparatus and method of allowing device interconnection with cellular and other wireless telephone networks.

Claims 18 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shaughnessy et al. (U.S. Patent Number: 5,392,449) in view of Frost (U.S. Patent Number: 4,284,848), further in view of Bridgelall (U.S. Patent Application Number: 2002/0085516), further in



view of Mhyre et al. (U.S. Patent Application Number: 2004/0203800), and further in view of Haverinen et al. (U.S. Patent Application Number: 2002/0012433),

Consider claims 18 and 23; Zhang, Paila, Bridgelall, and Mhyre clearly discloses the claimed invention except that the one or more challenges to the mobile terminal comprises providing the one or more challenges over an Extensible Authentication Protocol.

In the same field of endeavor Haverinen clearly discloses that the one or more challenges to the mobile terminal comprises providing the one or more challenges over an Extensible Authentication Protocol (paragraph 342, lines 1-6).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Haverinen into the method of Zhang, Paila, Bridelall, and Mhyre in order to authenticate a mobile node to a packet data network.

### *Conclusion*

Any response to this Office Action should be faxed to (571) 273-8300 or mailed to:

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Art Unit: 2617

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Joel Ajayi whose telephone number is (571) 270-1091. The Examiner can normally be reached on Monday-Friday from 7:30am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Nick Corsaro can be reached on (571) 272-7876. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

*Joel Ajayi*

January 18, 2007

  
NICK CORSARO  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600